ABSTRACT OF THE DISCLOSURE

A method for calibrating a reception signal in a smart antenna system includes: locally generating a reference signal, converting the reference signal into an RF signal, and dividing the RF signal into as many signals as the number of antennas. [[

]]Phase information of the divided RF signals is then detected. This is followed by outputting a plurality of reference signals having the same phases by performing phase shifting operation, converting an RF signal into a baseband signal, and calibrating the baseband signal by multiplying the baseband signal by a calibration vector. An apparatus for calibrating a reception signal in a smart antenna system includes a reference signal generating unit and an array antenna unit. The reference signal generating unit includes a local reference signal generator, an RF converter, a splitter, a phase detector, and a phase shifter. The array antenna unit includes an antenna, a front-end part, an RF transmitter, an RF receiver, and a baseband processor. A process of calculating complex conjugate numbers and a complex conjugate number calculator may also be included. In this method, because the same reference signals are input into the array antenna unit, the calibration process may be greatly simplified.